

REMARKS

Claims 1-31 and 56-63 have been withdrawn. Claims 32-55 and claim 64 are before the Examiner. Each claim is rejected by the Examiner.

Claims 32-34, 37-41 and 64 were rejected under 35 U.S.C. § 102(b) as anticipated by *Kitami et al.* (US 5,362,530). Further, claims 35-36, 42-43 and 51-55 were rejected under 35 U.S.C. § 103(a) as unpatentable over *Kitami et al.* (US 5,362,530). The Applicant traverses this rejection.

Kitami discloses a layered tube structure, wherein there is “(a) an inner tube,” and “(b) a reinforcing layer disposed over the core and formed of a synthetic fibrous material or a metallic wiry material,” and an “(c) outer layer cover laminated around the reinforcing layer.”¹ The “reinforcing layer” is further described, as pointed out by the Examiner, stating the following:

The reinforcing layer interposed between the core and the cover is formed, though not restricted, from *synthetic fibers or metallic wires* which may be braided or spirally wound. Typical examples of synthetic fibers are vinylon fibers obtainable from Unitica, polyester fibers such as polyethylene terephthalate fibers available as Tetron from Toray, nylon fibers such as nylon 6 and nylon 66 as Leona from Ashi Chemical, rayon fibers, aromatic polyamide fibers and the like. Included metallic wires are steel wires brass-plated to improve rust inhibition and adhesion strength.

A stress crack-inhibiting barrier layer may be assembled into the hose of the invention for particular application.²

The Examiner states that *Kitami* discloses “a barrier layer disposed between the first thermoplastic tubular structure and the second thermoplastic tubular structure” in the last two lines of the quote above, and also at column 7 which states: “To suit particular applications, the second-embodied and modified hoses may be constructed with a core of a multi-layered structure or with a barrier layer against stress crack.”

The Examiner equates this description to Applicant’s claimed “barrier layer.” In so doing, the Examiner stated that

¹ *Kitami* at col. 2, lines 40-50.

² *Id.* at col. 5, lines 38-51. (emphasis added)

An additional layer in the ‘core of a multilayered structure’ (col. 7, lines 53-54), that is located between the inner and outer walls of the inner layer of the second embodiment (which falls within the scope of the teachings at col. 5, lines 49-51 and col. 7, lines 52-55), *corresponds to the claimed barrier layer because any additional layer would serve as a barrier layer because the additional bulk of the layer would further retard the permeation of gas through the multilayer structure as compared with the multilayer structure without the additional layer.*³

Applicant contends that this conclusion cannot be fairly drawn. It is not clear from the disclosure in *Kitami* what material is used to make the layers described in columns 5 and 7 that the Examiner refers to.⁴ It is only stated that the materials be “a barrier layer against stress-crack.” This does not equate to the Applicant’s “barrier layer” as defined at paragraph [0038] of the specification. That a material is used in *Kitami* to prevent stress-cracking does not disclose a barrier that is impermeable to CO₂. Thus, *Kitami* does not teach or suggest the “barrier layer” and overall structure in Applicant’s independent claims 32, 45 and 64.⁵

Further, even if it were true that “any additional layer would serve as a barrier layer because the additional bulk of the layer would further retard the permeation of gas,” one of the advantages of the Applicant’s claimed invention is that the impermeable “barrier layer” can be thin and not add additional bulk. In this regard, claims 42 and 43, and 54 and 55 should be independently allowable.⁶

As to the rejection of claim 46, the Examiner cites the disclosure in *Kitami* at column 6, lines 9-52. The Applicant contends that this does not disclose claim 46, as that description is directed to nylon or blends of nylon with polyolefins at only 10 to 40 parts by weight. *Flepp et al.* (cited in the rejection, see below) also does not teach layers made from polyolefin materials as in claim 46. Thus, claim 46 should be separately allowable.

³ Page 3 of the Office Action. (emphasis added).

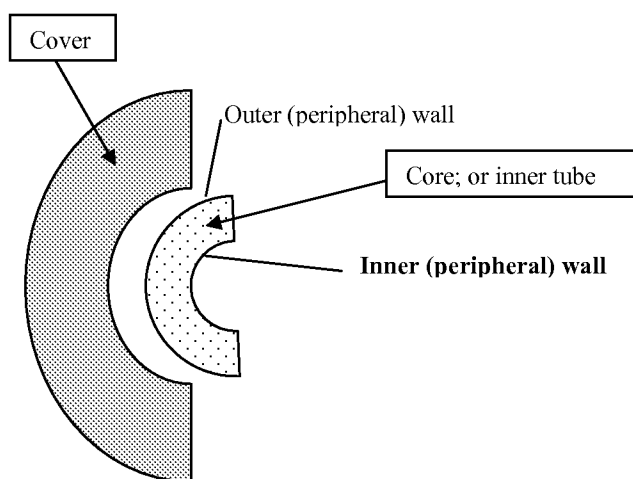
⁴ Col. 5, lines 49-51, and col. 7, lines 52-55.

⁵ Also, from the passage in column 7, lines 35-55, it is not clear where the “core” is located, and how the “inner” and “outer” walls relate to the overall structure. *Kitami* is very vague in this regard at column 7. If this description is consistent with the description of a “core” at column 6, then the so called “barrier” at column 7, lines 42-55 would correspond to an “inner wall” which faces the gas/liquid flow in the interior of the tube. See the remarks below discussing the obviousness rejection in light of *Kitami*.

⁶ For instance, see col. 11, lines 46-49 cited by the Examiner in the Office Action page 6. There, the thickness is between 1 and 2 mm (incidentally, Applicant contends that “min” is in error, as is apparent when looking at the Tables of data therein, which state “mm”). Col. 7, lines 48-51 of *Kitami* does disclose ranges of smaller thickness, for the most part, still thicker than Applicant claims.

The Examiner also contends (in the obviousness rejection) that *Kitami* at column 6, lines 15-26 discloses the claimed “barrier layer” by teaching that “the stress crack barrier material has improved impermeation to Freon gases.” If one looks at the whole passage of *Kitami*, what is being described is the “inner wall” of the “core” layer, not a “barrier layer” interposed between a first and second layer as claimed by the Applicant. The inner wall of the core layer would directly face the flowing gas/liquid and not be sandwiched as Applicant claims. Thus, *Kitami* does not render the Applicant’s invention as obvious. The Applicant attempts to represent with a diagram what is disclosed in *Kitami*:

**Cutaway diagram of the “second embodiment” hose as
described at columns 5-6 of *Kitami***



The “inner wall” of *Kitami* does not correspond to Applicant’s “barrier layer” which is sandwiched between the first and second layers as claimed. In light of these remarks, the Applicant contends that independent claims 32, 45 and 64 are allowable, as are the dependent claims therefrom.

The Examiner also separately rejects claim 44 under 35 U.S.C. § 103(a) as unpatentable over *Kitami et al.* (US 5,362,530) in view of *Flepp et al.* (US 6,555,243). Given that the independent claim is patentable, *Flepp* does not further support a rejection of the independent claims, and claim 44 is allowable.

The Applicant requests that the prior art rejections be withdrawn. In this regard, Applicant also requests that the Withdrawn claims be allowed.

CONCLUSION

The Applicant respectfully requests an allowance in this case. Applicants invite the Examiner to telephone the undersigned attorney if there are any issues outstanding which have not been presented to the Examiner's satisfaction.

If necessary to affect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to affect a timely response. Please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1712 (Docket No.: 2004B020.US).

Respectfully submitted,

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